

**INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE**  
**Department of Mechanical and Industrial Engineering**

Dated: 14.12.2023

**ADVERTISEMENT TO FILL UP PROJECT POSITIONS\***

Applications are invited from Indian nationals only for project position(s) as per the details given below for the consultancy/research project(s) under the Principal investigator (Name: Dr. Siladitya Pal), Dept./Centre: Department of Mechanical and Industrial Engineering, Indian Institute of Technology, Roorkee.

1. Title of project: **Development of micro-structure based predictive tools for impact shock-sensitivity estimation of polymer bonded explosives (PBXs)**
2. Sponsor of the project: Terminal Ballistics Research Laboratory (TBRL), DRDO, Chandigarh
3. Project position(s) and number: **Research Associate (01)**
4. Qualifications: M.E/M.Tech in Mechanical Engineering/ Aerospace Engineering/ Applied Mechanics or equivalent with Ph.D. in Engineering\* in Mechanical / Aerospace/ Applied Mechanics or equivalent  
 (\*Degree should be completed after 2 December 2018. Candidates who have submitted their thesis recently are also eligible to apply)
5. Emoluments: 55,000/- p.m. + HRA (as admissible)  
 (House Rent Allowance (HRA) would be provided to the candidate as per institute rules)
6. Duration: 12 months (extendable to project duration)
7. Job description: The Project aims to develop a robust, computational and micromechanics based model for the prediction of dynamic characteristics in energetic materials. Impact shock-sensitivity of polymer bonded explosives (PBX) would be studied extensively with the developed modeling tools. A research background in crystal plasticity based finite element modeling is desirable. Exposure to experimental characterization of materials is preferable. The candidate should have at least 1 (ONE) paper published in an SCI indexed journal from his/her Ph.D. The job responsibilities include but are not limited to: development of plasticity based model and integrating it with existing finite element-based code, coordinate with TBRL, DRDO for gathering experimental data, modify developed model according to experimental observations and improvement of the developed models with novel constitutive laws such that the dynamic loading behavior in energetic materials could be understood.
8. Candidate shall bring along with them the original degree(s)/certificate(s) and experience certificate(s) at the time of interview.
9. Preference will be given to SC/ST candidates on equal qualifications and experience.
10. Please note that no TA/DA is admissible for attending the interview.

**Note: The current opening is equivalent to a post-doctoral position and the selected candidate is NOT ELIGIBLE to get PhD admission. The candidates will be interviewed in person in WALK-IN mode MIED Committee Room (11.00 am) on 29<sup>th</sup> December, 2023**

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Siladitya Pal 14.12.2023  
 (Dr. Siladitya Pal)

\*To be uploaded on IIT Roorkee website and copy may be sent to appropriate addresses by PI for wider circulation.

**APPROVED**

14/12/23

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